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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/757,466 | 01/15/2004 | Masahiko Sugimoto | 0649-0934P | 5046 |

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| EXAMINER | |
|---|---|
| QUIETT, CARRAMAH J | |
| **ART UNIT** | **PAPER NUMBER** |
| 2612 | |

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| **Advisory Action Before the Filing of an Appeal Brief** | **Application No.** 10/757,466 | **Applicant(s)** SUGIMOTO, MASAHIKO | |
|---|---|---|---|
| | **Examiner** Carramah J. Quiett | **Art Unit** 2612 | |

***--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***

THE REPLY FILED 17 November 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 5 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: *6-8 and 14-16*.
   Claim(s) objected to: *2,3,10 and 11*.
   Claim(s) rejected: *1, 4, 5, 9, 12, and 13*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Attached.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☐ Other: _____.

NGOC-YEN VU
PRIMARY EXAMINER

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 02/07/2005 have been fully considered but they are not persuasive.

The Applicant asserts that Fossum et al. (U.S. #6,137,100) and Murakami (JP Pub. #06-178198) fail to teach the limitations of claim 1. With respect to Fossum, the Applicant asserts that Fossum has no relation to adjusting or controlling a gain amount in response to a stop amount of a diaphragm (emphasis added). The Examiner respectfully disagrees. The Examiner never alleged that Fossum teaches adjusting a gain amount in response to a stop amount of a diaphragm. In col. 1 lines 65-66, Fossum, the primary reference, teaches that image quality and signal-to-noise ratio of the color image signal can be improved by changing the effective area of each color pixel (Fossum, col. 1, lines 20-32) or applying separate gains for separate spectral band channels (Fossum, col. 1, lines 65-67). Then, the Examiner used a secondary reference, Murakami, to teach an image pick up device with a solid-state imaging element, which receives the incident light passed through a diaphragm, and a storage device, which stores stop value information to control the gain. Please see Murakami, fig. 2 and read Murakami, the abstract as well as paragraph 9. Murakami has a storage device that stores the stop value (correction data), which is transmitted to the gain control amplifiers for adjusting the gain. As shown in fig. 2, the correction data (9a-9c) has individual lines that are connected to individual gain control amplifiers (5a-5c) for signals each transmitted from individual imaging elements (3a-3c).

With respect to Murakami, the Applicant asserts that Murakami fails to disclose or suggest *individually* controlling a gain amount of the high-sensitivity image signal (obtained

from a main pixel of a solid state imaging element) and a gain amount of the low-sensitivity image signal (obtained from a sub-pixel of a solid state imaging element) in response to the stop-amount of the diaphragm. The Examiner respectfully disagrees. Murakami has been used as a secondary reference to teach a digital camera comprising: a diaphragm, which controls an amount of incident light by varying a stop-amount; a solid-state imaging element, which receives the incident light passed through the diaphragm, a controller, which *individually* controls a gain amount of the high-sensitivity (blue) image signal and a gain amount of the low-sensitivity image signal (green/red) in response to the stop-amount of the diaphragm; and a synthesizing processor, which synthesizes the controlled high-sensitivity image signal and the controlled low-sensitivity image signal. Please see fig. 2 and read the abstract as well as paragraph 9. Murakami has a storage device that stores the stop value (correction data), which is transmitted to the gain control amplifiers for adjusting the gain. As shown in fig. 2, the correction data (9a-9c) has individual lines that are connected to individual gain control amplifiers (5a-5c) for signals each transmitted from individual imaging elements (3a-3c). As a primary reference, Fossum has been used to teach a solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel (fig. 1B, ref. 110) having a first area for obtaining a high-sensitivity (blue) image signal, and a sub-pixel (fig. 1B, refs. 112, 114, or 116) having a second area, which is smaller than the first area, for obtaining a low-sensitivity (green/red) image signal. Please see fig. 1B (the *first* embodiment) and read col. 1, lines 5-7; 20-32 and col. 2, lines 38-59. Additionally, Fossum's system can use separate gain elements for separate spectral bands channels (Fossum, col. 1, lines 65-67).

The Applicant asserts that the image pickup elements of Murakami are certainly not divided into a main pixel having a first area for obtaining a high-sensitivity image signal, and a sub-pixel having a second area, which is smaller than the first area, for obtaining a low-sensitivity image signal as recited in claim 1. Respectfully, this particular argument is moot. Fossum was used to teach this particular limitation of claim 1. The Applicant also asserts that the image pickup elements of Murakami are incapable of disclosing a controller, which individually controls a gain amount of the high and low sensitivity signals in response to a stop amount of a diaphragm. Once again, the Examiner respectfully disagrees. As stated in previous paragraphs, Murakami has a storage device that stores the stop value (correction data), which is transmitted to the gain control amplifiers for adjusting the gain. In fig. 2, the correction data (9a-9c) has individual lines that are connected to individual gain control amplifiers (5a-5c). Please see Murakami, fig. 2 and read Murakami, the abstract as well as paragraph 9.

For both claims 1 and 9, the Applicant stated that, "Fossum fails to disclose or suggest a solid state imaging element as recited in claim 1 which is divided into a main pixel with a first area and sub-pixel with a second area smaller than the first area. Furthermore, Fossum fails to disclose or suggest which the method of claim 9 receives incident light from the solid state imaging element divided into a main pixel with a first area and sub-pixel with a second area smaller than the first area." In the previous Office Action, the Examiner used fig. 1B (first embodiment) in Fossum to illustrate a solid-state imaging element divided into a main pixel (fig. 1B, ref. 110) having a first area for obtaining a high-sensitivity (blue) image signal, and a sub-pixel (fig. 1B, refs. 112, 114, or 116) having a second area, which is smaller than the first area, for obtaining a low-sensitivity (green/red) image signal. As illustrated in fig. 1B (the *first*

embodiment), the sizes of the imaging elements (110, 112/114, and 116) are different. The main pixel (110) is larger than the sub-pixel (112, 114, or 116). Please read col. 1, lines 5-7; 20-32 and col. 2, lines 38-59.

Additionally, the Applicant asserts that Fossum does not teach or suggest a controller, which individually controls a gain amount of the high and low sensitivity image signals in response to the stop-amount of the diaphragm. The Applicant also states that neither Murakami nor Fossum discloses or suggests any such structure or function. Respectfully, the Examiner disagrees. Once again, as a primary reference, Fossum has been used to teach a solid-state imaging element having a plurality of pixels, each of the pixels being divided into a main pixel (fig. 1B, ref. 110) having a first area for obtaining a high-sensitivity (blue) image signal, and a sub-pixel (fig. 1B, refs. 112, 114, or 116) having a second area, which is smaller than the first area, for obtaining a low-sensitivity (green/red) image signal. Please see fig. 1B (the *first* embodiment) and read col. 1, lines 5-7; 20-32 and col. 2, lines 38-59. Additionally, Fossum's system can use separate gain elements for separate spectral bands channels (Fossum, col. 1, lines 65-67). Murakami has been used as a secondary reference to teach a digital camera comprising: a diaphragm, which controls an amount of incident light by varying a stop-amount; a solid-state imaging element, which receives the incident light passed through the diaphragm, a controller, which *individually* controls a gain amount of the high-sensitivity (blue) image signal and a gain amount of the low-sensitivity (green/red) image signal in response to the stop-amount of the diaphragm; and a synthesizing processor, which synthesizes the controlled high-sensitivity image signal and the controlled low-sensitivity image signal. Please see fig. 2 and read the abstract as well as paragraph 9. Murakami has a storage device that stores the stop value (correction data),

which is transmitted to the gain control amplifiers for adjusting the gain. As shown in fig. 2, the correction data (9a-9c) has individual lines that are connected to individual gain control amplifiers (5a-5c) for signals each transmitted from individual imaging elements (3a-3c).

Lastly for claim 9, the Applicant states that together Fossum and Murakami fail to disclose or suggest the method recited in this claim. Particularly, the Applicant states that Murakami certainly has no individual control of gain amount as claimed in independent claim 9. Respectfully, the Examiner disagrees. Murakami has a storage device that stores the stop value (correction data), which is transmitted to the gain control amplifiers for adjusting the gain. As shown in fig. 2, the correction data (9a-9c) has individual lines that are connected to individual gain control amplifiers (5a-5c) for signals each transmitted from individual imaging elements (3a-3c). Please see fig. 2 and read the abstract as well as paragraph 9.

Accordingly, Examiner submits that the rejections to claims 1, 4, 5, 9, 12 and 13 presented in the previous Office Action are respectfully maintained due to the combination of the prior art.

2. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJQ
December 20, 2005

NGOC-YEN VU
PRIMARY EXAMINER